

What is claimed is:

1. A process for producing soybean oil from soybeans comprising:
  - a) extracting up to about 85% of the oil from the soybeans to produce first extracted soybean oil and oil-containing meal; and
  - b) extracting substantially all of the oil in said oil-containing meal by solvent extraction to produce second extracted soybean oil and substantially oil-free meal.
2. The process of claim 1, wherein oil is extracted from said soybeans by solvent extraction.
3. The process of claim 1, wherein oil is extracted from said soybeans by mechanical extraction.
4. The process of claim 1, wherein from about 60% to about 75% of the oil is extracted from said soybeans.
5. The process of claim 1, further including the step of caustic refining said first extracted soybean oil.
6. The process of claim 1, further including the step of physically refining said first extracted soybean oil.
7. The process of claim 1, wherein oil is extracted from said soybeans by heating said soybeans to at least 300°F, crushing said soybeans, and mechanically pressing said soybeans.
8. The process of claim 1, wherein oil is extracted from said soybeans by flaking said soybeans, and then contacting said soybean flakes with hexane.

9. The process of claim 1, further including the step of heating said first extracted soybean oil to a temperature of from about 450°F to about 500° F under a vacuum to remove free fatty acids from said first extracted soybean oil.

10. The process of claim 1, further including the step of producing biodiesel  
5 fuel from said second extracted soybean oil.

11. A process for producing soybean oil from soybeans comprising:  
a) mechanically extracting up to about 85% of the oil from the soybeans to produce first extracted soybean oil and oil-containing meal;  
b) physically refining said first extracted soybean oil; and  
10 c) extracting substantially all of the oil in said oil-containing meal by solvent extraction to produce second extracted soybean oil and substantially oil-free meal.

12. The process of claim 11, wherein oil is extracted from said soybeans by heating said soybeans of a temperature of at least 300°F, and mechanically pressing  
15 said soybeans.

13. The process of claim 11, wherein oil is extracted from said soybean meal with hexane.

14. The process of claim 11, wherein from about 60 to about 75% of the oil in said soybeans is extracted by mechanical extraction.

20 15. The process of claim 11, wherein said second extracted soybean oil is transesterified.

16. A process for producing soybean oil from soybeans comprising:

- a) extracting up to about 85% of the oil from the soybeans by solvent extraction to produce first extracted soybean oil and oil-containing meal; and
- b) refining said first extracted soybean oil.

17. The process of claim 16, further including extracting substantially all of  
5 the oil in said oil-containing meal by solvent extraction to produce second extracted soybean oil and substantially oil-free meal.

18. The process of claim 16, wherein said first extracted oil is refined by caustic refining.

19. The process of claim 16, wherein oil is extracted from said soybeans by  
10 flaking said soybeans and contacting the soybean flakes with a solvent.

20. The process of claim 16, wherein oil is extracted from said soybean meal with hexane.

21. The process of claim 16, wherein said oil extracted by contacting said soybeans with hexane in a ratio of hexane to soybean oil of less than 1:1.

15 22. The process of claim 16, wherein from about 60 to about 85% of the oil in said soybeans is extracted by solvent extraction.

23. The process of claim 17, wherein said second extracted soybean oil is transesterified.